

"UNMARKED VERSION"

CLAIMS AMENDMENTS

What is claimed is:

Claims 1-7 (not entered).

8. (amended)

A method for stabilizing and accumulating cellular RNA in vivo comprising:

- 1) preparing microbial culture media depleted of phosphate
- 2) adding thiophosphate as the sole source of phosphate to the media
- 3) culturing micro-organisms in the modified media for a sufficient time such that most mRNAs and/or rRNAs are modified with phosphorothioate linkages
- 4) subsequently utilizing the stabilized RNA for enhanced detection of RNA and/or to protect RNA from nucleases during purification processes used to isolate RNA from cells.

9. (withdrawn)

10. (amended)

A method to globally increase the synthesis and/or excretion of cellular proteins comprising:

- 1) growing cells in thio-phosphate containing media
- 2) determining the optimal ratio of thio-phosphate to inorganic phosphate in the culture media for maximal protein induction of the bulk population of proteins typically using a marker protein of interest
- 3) determining the optimal time point of cultivation for maximum levels of protein accumulation for the majority of cellular proteins and/or particular protein of interest.

11. (original)

The method of claim 10 wherein the cells used to generate the protein are prokaryotic

or eukaryotic in origin.

12. (original)

The method of claim 10 wherein the protein is produced using a recombinant DNA or
viral expression vector or whole virus.

13. (amended)

The method of claim 10 wherein the global enhancement of proteins in cells results
in an increase in a rate limiting enzyme(s) and as such is used to increase the rate or
yield of non-protein products such as antibiotics, chemical intermediates, organic acids, etc.
in fermentation reactions.

14. (amended)

A method for chemically modifying the RNA inside the cells of complex organisms
comprising:

- 1) identifying the source of organic phosphate in the organism's diet
- 2) removing the organic phosphate source from the diet
- 3) substituting thio-phosphate for organic phosphate in the diet by adding it to solid feed,
or by feeding the organism a liquid source of thio-phosphate, or alternatively by
injecting thio-phosphate directly into the organism.